RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/501,838A
Source: PCT
Date Processed by STIC: 4-28-05

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PCT

RAW SEQUENCE LISTING DATE: 04/28/2005
PATENT APPLICATION: **US/10/501,838A** TIME: 16:18:00

Input Set : **A:\24348-501NATL.ST25.txt**
Output Set: **N:\CRF4\04272005\J501838A.raw**

```
      3 <110> APPLICANT: Ben-Sasson, Shmuel A.
      4       Cohen, Einat
      6 <120> TITLE OF INVENTION: Amino Acid Sequences Capable of Facilitating Penetration
Across a
      7       Biological Barrier
      9 <130> FILE REFERENCE: 24348-501 NATL
     11 <140> CURRENT APPLICATION NUMBER: US 10/501,838A
C--> 12 <141> CURRENT FILING DATE: 2004-07-19
     14 <150> PRIOR APPLICATION NUMBER: PCT/IB03/00968
     15 <151> PRIOR FILING DATE: 2003-02-07
     17 <150> PRIOR APPLICATION NUMBER: US 60/355,396
     18 <151> PRIOR FILING DATE: 2002-02-07
     20 <160> NUMBER OF SEQ ID NOS: 72
     22 <170> SOFTWARE: PatentIn version 3.2
     24 <210> SEQ ID NO: 1
     25 <211> LENGTH: 23
     26 <212> TYPE: PRT
     27 <213> ORGANISM: Haemophilus influenzae
     29 <400> SEQUENCE: 1
     31 Asn Tyr His Asp Ile Val Leu Ala Leu Ala Gly Val Cys Gln Ser Ala
     32 1               5                   10                  15
     35 Lys Leu Val His Gln Leu Ala
     36             20
     39 <210> SEQ ID NO: 2
     40 <211> LENGTH: 23
     41 <212> TYPE: PRT
     42 <213> ORGANISM: Pasteurella multocida
     44 <400> SEQUENCE: 2
     46 Asn Tyr Tyr Asp Ile Thr Leu Ala Leu Ala Gly Val Cys Gln Ala Ala
     47 1               5                   10                  15
     50 Lys Leu Val Gln Gln Phe Ala
     51             20
     54 <210> SEQ ID NO: 3
     55 <211> LENGTH: 23
     56 <212> TYPE: PRT
     57 <213> ORGANISM: Escherichia coli
     59 <400> SEQUENCE: 3
     61 Asn Tyr Tyr Asp Ile Thr Leu Ala Leu Ala Gly Ile Cys Gln Ser Ala
     62 1               5                   10                  15
     65 Arg Leu Val Gln Gln Leu Ala
     66             20
     69 <210> SEQ ID NO: 4
     70 <211> LENGTH: 23
     71 <212> TYPE: PRT
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(ps. 6)

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Input Set : A:\24348-501NATL.ST25.txt
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72 <213> ORGANISM: Vibrio cholerae
74 <400> SEQUENCE: 4
76 Ala Ile Tyr Asp Arg Thr Ile Ala Phe Ala Gly Ile Cys Gln Ala Val
77 1 5 10 15
80 Ala Leu Val Gln Gln Val Ala
81 20
84 <210> SEQ ID NO: 5
85 <211> LENGTH: 23
86 <212> TYPE: PRT
87 <213> ORGANISM: Buchnera aphidicola
89 <400> SEQUENCE: 5
91 Lys Ile His Leu Ile Thr Leu Ser Leu Ala Gly Ile Cys Gln Ser Ala
92 1 5 10 15
95 His Leu Val Gln Gln Leu Ala
96 20
99 <210> SEQ ID NO: 6
100 <211> LENGTH: 23
101 <212> TYPE: PRT
102 <213> ORGANISM: Pseudomonas aeruginosa
104 <400> SEQUENCE: 6
106 Asp Pro Arg Gln Gln Leu Ile Ala Leu Gly Ala Val Phe Glu Ser Ala
107 1 5 10 15
110 Ala Leu Val Asp Lys Leu Ala
111 20
114 <210> SEQ ID NO: 7
115 <211> LENGTH: 23
116 <212> TYPE: PRT
117 <213> ORGANISM: Xylella fastidiosa
119 <400> SEQUENCE: 7
121 Leu Ile Asp Asn Arg Val Leu Ala Leu Ala Gly Val Val Gln Ala Leu
122 1 5 10 15
125 Gln Gln Val Arg Gln Ile Ala
126 20
129 <210> SEQ ID NO: 8
130 <211> LENGTH: 23
131 <212> TYPE: PRT
132 <213> ORGANISM: Rhizobium loti
134 <400> SEQUENCE: 8
136 Asn Leu Pro Pro Ile Val Leu Ala Val Ile Gly Ile Cys Ala Ala Val
137 1 5 10 15
140 Phe Leu Leu Gln Gln Tyr Val
141 20
144 <210> SEQ ID NO: 9
145 <211> LENGTH: 23
146 <212> TYPE: PRT
147 <213> ORGANISM: Homo sapiens
149 <400> SEQUENCE: 9
151 Asn Tyr Phe Ile Val Asn Leu Ala Leu Ala Asp Leu Cys Met Ala Ala
152 1 5 10 15

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Input Set : A:\24348-501NATL.ST25.txt
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155 Phe Asn Ala Ala Phe Asn Phe
156             20
159 <210> SEQ ID NO: 10
160 <211> LENGTH: 23
161 <212> TYPE: PRT
162 <213> ORGANISM: Chlamydia pneumoniae
164 <400> SEQUENCE: 10
166 Thr Ala Phe Asp Phe Asn Lys Met Leu Asp Gly Val Cys Thr Tyr Val
167 1               5                   10                  15
170 Lys Gly Val Gln Gln Tyr Leu
171             20
174 <210> SEQ ID NO: 11
175 <211> LENGTH: 23
176 <212> TYPE: PRT
177 <213> ORGANISM: Rhizobium loti
179 <400> SEQUENCE: 11
181 Arg Ala Ile Leu Ile Pro Leu Ala Leu Ala Gly Leu Cys Gln Val Ala
182 1               5                   10                  15
185 Arg Ala Gly Asp Ile Ser Ser
186             20
189 <210> SEQ ID NO: 12
190 <211> LENGTH: 25
191 <212> TYPE: PRT
192 <213> ORGANISM: Bacillus subtilis
194 <400> SEQUENCE: 12
196 Met Arg Asn Leu Thr Lys Thr Ser Leu Leu Leu Ala Gly Leu Cys Thr
197 1               5                   10                  15
200 Ala Ala Gln Met Val Phe Val Thr His
201             20                  25
204 <210> SEQ ID NO: 13
205 <211> LENGTH: 25
206 <212> TYPE: PRT
207 <213> ORGANISM: Kingella denitrificans
209 <400> SEQUENCE: 13
211 Ile Glu Leu Met Ile Val Ile Ala Ile Ile Gly Ile Leu Ala Ala Ile
212 1               5                   10                  15
215 Ala Leu Pro Ala Tyr Gln Glu Tyr Val
216             20                  25
219 <210> SEQ ID NO: 14
220 <211> LENGTH: 25
221 <212> TYPE: PRT
222 <213> ORGANISM: Eikenella corrodens
224 <400> SEQUENCE: 14
226 Ile Glu Leu Met Ile Val Ile Ala Ile Ile Gly Ile Leu Ala Ala Ile
227 1               5                   10                  15
230 Ala Leu Pro Ala Tyr Gln Asp Tyr Val
231             20                  25
234 <210> SEQ ID NO: 15
235 <211> LENGTH: 16
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```
236 <212> TYPE: PRT
237 <213> ORGANISM: Zonula occludens toxin
239 <400> SEQUENCE: 15
241 Ala Ser Phe Gly Phe Cys Ile Gly Arg Leu Cys Val Gln Asp Gly Phe
242 1               5                   10                  15
245 <210> SEQ ID NO: 16
246 <211> LENGTH: 4
247 <212> TYPE: PRT
248 <213> ORGANISM: Artificial sequence
250 <220> FEATURE:
251 <223> OTHER INFORMATION: Synthetic: Cleavable linker peptide
253 <400> SEQUENCE: 16
255 Ile Glu Gly Arg
256 1
259 <210> SEQ ID NO: 17
260 <211> LENGTH: 6
261 <212> TYPE: PRT
262 <213> ORGANISM: Artificial sequence
264 <220> FEATURE:
265 <223> OTHER INFORMATION: Synthetic: Cleavable linker peptide
267 <400> SEQUENCE: 17
269 Gly Gly Lys Gly Gly Lys
270 1               5
273 <210> SEQ ID NO: 18
274 <211> LENGTH: 29
275 <212> TYPE: PRT
276 <213> ORGANISM: Artificial sequence
278 <220> FEATURE:
279 <223> OTHER INFORMATION: Synthetic: penetrating peptide
282 <220> FEATURE:
283 <221> NAME/KEY: MISC_FEATURE
284 <222> LOCATION: (26)..(29)
285 <223> OTHER INFORMATION: cleavable linker peptide
287 <220> FEATURE:
288 <221> NAME/KEY: MISC_FEATURE
289 <222> LOCATION: (26)..(29)
290 <223> OTHER INFORMATION: wherein recombinant human insulin is coupled to the
penetrating
291       peptide via the cleavable linker peptide
293 <400> SEQUENCE: 18
295 Asn Tyr Tyr Asp Ile Thr Leu Ala Leu Ala Gly Ile Cys Gln Ser Ala
296 1               5                   10                  15
299 Arg Leu Val Gln Gln Leu Ala Gly Gly Ile Glu Gly Arg
300             20                  25
303 <210> SEQ ID NO: 19
304 <211> LENGTH: 25
305 <212> TYPE: PRT
306 <213> ORGANISM: Artificial sequence
308 <220> FEATURE:
309 <223> OTHER INFORMATION: Synthetic: penetrating peptide
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312 <220> FEATURE:
313 <221> NAME/KEY: MISC_FEATURE
314 <222> LOCATION: (25)..(25)
315 <223> OTHER INFORMATION: wherein recombinant human insulin is coupled to the penetrating
316 peptide via the glycine residue
318 <400> SEQUENCE: 19
320 Asn Tyr Tyr Asp Ile Thr Leu Ala Leu Ala Gly Ile Cys Gln Ser Ala
321 1 5 10 15
324 Arg Leu Val Gln Gln Leu Ala Gly Gly
325 20 25
328 <210> SEQ ID NO: 20
329 <211> LENGTH: 30
330 <212> TYPE: PRT
331 <213> ORGANISM: Artificial sequence
333 <220> FEATURE:
334 <223> OTHER INFORMATION: Synthetic: penetrating peptide
337 <220> FEATURE:
338 <221> NAME/KEY: MISC_FEATURE
339 <222> LOCATION: (26)..(29)
340 <223> OTHER INFORMATION: cleavable linker peptide
342 <220> FEATURE:
343 <221> NAME/KEY: MISC_FEATURE
344 <222> LOCATION: (30)..(30)
345 <223> OTHER INFORMATION: wherein heparin is coupled to the penetrating peptide via the
346 free amino group of the lysine residue
348 <400> SEQUENCE: 20
350 Asn Tyr Tyr Asp Ile Thr Leu Ala Leu Ala Gly Ile Cys Gln Ser Ala
351 1 5 10 15
354 Arg Leu Val Gln Gln Leu Ala Gly Gly Ile Glu Gly Arg Lys
355 20 25 30
358 <210> SEQ ID NO: 21
359 <211> LENGTH: 26
360 <212> TYPE: PRT
361 <213> ORGANISM: Artificial sequence
363 <220> FEATURE:
364 <223> OTHER INFORMATION: Synthetic: penetrating peptide
367 <220> FEATURE:
368 <221> NAME/KEY: MISC_FEATURE
369 <222> LOCATION: (26)..(26)
370 <223> OTHER INFORMATION: wherein heparin is coupled to the penetrating peptide via the
371 free amino group of the lysine residue
373 <400> SEQUENCE: 21
375 Asn Tyr Tyr Asp Ile Thr Leu Ala Leu Ala Gly Ile Cys Gln Ser Ala
376 1 5 10 15
379 Arg Leu Val Gln Gln Leu Ala Gly Gly Lys
380 20 25
383 <210> SEQ ID NO: 22
384 <211> LENGTH: 30
385 <212> TYPE: PRT

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 04/28/2005
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Input Set : **A:\24348-501NATL.ST25.txt**
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Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:38; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16
Seq#:39; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22
Seq#:39; Xaa Pos. 23
Seq#:40; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22
Seq#:40; Xaa Pos. 23
Seq#:41; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22
Seq#:41; Xaa Pos. 23
Seq#:42; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22
Seq#:42; Xaa Pos. 23,24,25
Seq#:43; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22
Seq#:43; Xaa Pos. 23
Seq#:44; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22
Seq#:44; Xaa Pos. 23
Seq#:45; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22
Seq#:45; Xaa Pos. 23
Seq#:46; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22
Seq#:46; Xaa Pos. 23,24
Seq#:47; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22
Seq#:47; Xaa Pos. 23,24,25
Seq#:48; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22
Seq#:48; Xaa Pos. 23
Seq#:49; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22
Seq#:49; Xaa Pos. 23
Seq#:50; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22
Seq#:50; Xaa Pos. 23,24,25,26
Seq#:51; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22
Seq#:51; Xaa Pos. 23,24,25,26,27,28
Seq#:52; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22
Seq#:52; Xaa Pos. 23

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Input Set : **A:\24348-501NATL.ST25.txt**
Output Set: **N:\CRF4\04272005\J501838A.raw**

L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:934 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:38 after pos.:0
L:1034 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39 after pos.:0
M:341 Repeated in SeqNo=39
L:1118 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40 after pos.:0
M:341 Repeated in SeqNo=40
L:1202 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41 after pos.:0
M:341 Repeated in SeqNo=41
L:1271 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42 after pos.:0
M:341 Repeated in SeqNo=42
L:1365 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:43 after pos.:0
M:341 Repeated in SeqNo=43
L:1429 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:44 after pos.:0
M:341 Repeated in SeqNo=44
L:1513 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:45 after pos.:0
M:341 Repeated in SeqNo=45
L:1627 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:46 after pos.:0
M:341 Repeated in SeqNo=46
L:1726 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:47 after pos.:0
M:341 Repeated in SeqNo=47
L:1820 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:48 after pos.:0
M:341 Repeated in SeqNo=48
L:1899 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:49 after pos.:0
M:341 Repeated in SeqNo=49
L:2015 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:50 after pos.:0
M:341 Repeated in SeqNo=50
L:2129 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:51 after pos.:0
M:341 Repeated in SeqNo=51
L:2208 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:52 after pos.:0
M:341 Repeated in SeqNo=52